

# Coronavirus Disease 2019 (COVID-19)



## Case Investigation and Contact Tracing : Part of a Multipronged Approach to Fight the COVID-19 Pandemic

Updated Oct. 21, 2020 [Print](#)

This web page highlights basic principles of case investigation and contact tracing to stop COVID-19 transmission; detailed guidance for health departments is available.

Case investigation and contact tracing, a core disease control measure employed by local and state health department personnel for decades, is a key strategy for preventing further spread of COVID-19. Immediate action is needed. Communities must scale up and train a large workforce and work collaboratively across public and private agencies to stop the transmission of COVID-19.

### Certain core principles of case investigation and contact tracing must always be adhered to:

- Case investigation is part of the process of supporting patients with suspected or confirmed infection.
- In case investigation, public health staff work with a patient to help them recall everyone with whom they have had [close contact](#) during the timeframe while they may have been infectious.
- Public health staff then begin contact tracing by warning these exposed individuals (contacts) of their potential exposure as rapidly and sensitively as possible.
- To protect patient privacy, contacts are only informed that they may have been exposed to a patient with the infection. They are not told the identity of the patient who may have exposed them.
- Contacts are provided with education, information, and support to understand their risk, what they should do to separate themselves from others who are not exposed, monitor themselves for illness, and the possibility that they could spread the infection to others even if they themselves do not feel ill.
- Contacts are encouraged to stay home and [maintain social distance](#) from others (at least 6 feet) until 14 days after their last exposure, in case they also become ill. They

should monitor themselves by checking their temperature twice daily and watching for cough or shortness of breath. To the extent possible, public health staff should check in with contacts to make sure they are self-monitoring and have not developed symptoms. Contacts who develop symptoms should promptly isolate themselves and notify public health staff. They should be promptly evaluated for infection and for the need for medical care.

**Case investigation and contact tracing is a specialized skill.** To be done effectively, it requires people with the training, supervision, and access to social and medical support for patients and contacts. Requisite knowledge and skills for case investigators and contact tracers include, but are not limited to:

- An understanding of patient confidentiality, including the ability to conduct interviews without violating confidentiality (e.g., to those who might overhear their conversations)
- Understanding of the medical terms and principles of exposure, infection, infectious period, potentially infectious interactions, symptoms of disease, pre-symptomatic and asymptomatic infection
- Excellent and sensitive interpersonal, cultural sensitivity, and interviewing skills such that they can build and maintain trust with patients and contacts
- Basic skills of crisis counseling, and the ability to confidently refer patients and contacts for further care if needed
- Resourcefulness in locating patients and contacts who may be difficult to reach or reluctant to engage in conversation
- Understanding of when to refer individuals or situations to medical, social, or supervisory resources
- Cultural competency appropriate to the local community

## Case investigation and contact tracing is part of the process of supporting patients and warning contacts of exposure in order to stop chains of transmission.

Given the magnitude of COVID-19 cases and plans to eventually relax mitigation efforts such as stay at home orders and social distancing, communities need a large number of trained case investigators and contact tracers. Case investigators need to quickly locate and talk with the patients, assist in arranging for patients to isolate themselves, and work with patients to identify people with whom the patients have been in [close contact](#) so the contact tracer can locate them. The actual number of staff needed is large and varies depending on a number of factors including but not limited to:

- The daily number of cases
- The number of contacts identified
- How quickly patients are isolated, and contacts are notified and advised to stay home, self-monitor, and maintain social distance from others

**The time to start building the trained workforce is now.**

## Time is of the essence.

Identifying contacts and ensuring they do not interact with others is critical to protect communities from further spread. If communities are unable to effectively isolate patients and ensure contacts can separate themselves from others, rapid community spread of COVID-19 is likely to increase to the point that strict mitigation strategies will again be needed to contain the virus.

Case investigators and contact tracers need to:

- Immediately identify and interview people with SARS CoV-2 infections and COVID-19 (i.e., disease)
- Support isolation of those who are infected
- Warn contacts of their exposure, assess their symptoms and risk, and provide instructions for next steps
- Link those with symptoms to testing and care

*Based on our current knowledge, a [close contact](#) is someone who was within 6 feet of an infected person for a total of 15 minutes or more starting from 48 hours before illness onset until the time the patient is isolated. They should stay home, maintain social distancing, and self-monitor until 14 days from the last date of exposure.*

## Case investigation and contact tracing in care facilities, other congregate living settings and households with many people living in one house is a priority.

Case investigation and contact tracing with COVID-19 potentially exposed at work and patients in [health care facilities](#), congregate living settings or housing with many people is complex. Appropriate engagement with infection control and occupational health programs is recommended. Priority settings include:

- Health care facilities including [long-term care facilities](#)
- Group home/board
- [Homeless shelters](#)
- [Federal, state and local correctional facilities](#)
- Crowded, multigenerational housing

In addition to health care workers, it is important to assess interactions between residents and all staff, including but not limited to activity coordinators, food service staff, and sanitation management. Transitional case management plans should be put in place for patients in isolation and contacts who are separated for monitoring. Management plans

should also be created for transitioning from one setting to another, such as transitions from hospitals to acute or long-term care facilities or home isolation, or from prison and jail to parole and probation.

## Social services and housing will be needed for contacts unable to separate themselves from others in their current living situation.

Separating contacts from people who are not exposed is critical to the success of any contact tracing effort and requires social supports for individual compliance and medical monitoring. First and foremost is the assessment of an individual's ability to stay home and maintain social distance from others, a safe environment that provides the necessary supports (private room and bathroom, adequate food and water, and access to medication) and the ability to practice adequate infection control. For a portion of the U.S. population this will be a challenge, particularly for some of the most [vulnerable populations](#).

Support services for consideration include housing, food, medicine, and economic supports. For contacts without a primary care provider, linkage to clinical care may be needed. Support for medical monitoring includes patient care packages (e.g., thermometers, sanitizers, mask, gloves) and technological supports for medical monitoring (e.g., mobile phone apps). [If possible, contacts should be asked to voluntarily stay home, monitor themselves, and maintain social distancing from others.](#) However, health departments have the authority to issue legal orders of quarantine, should the situation warrant that measure.

## Communication with the public is crucial.

Engagement of the public with case investigators and contact tracers must be widely accepted in order to protect friends, family, and community members from future potential infections. Key public officials and community leaders will need to be engaged and supportive of case investigation and contact tracing efforts. Consider reaching out to community leaders as part of the neighborhood-level case investigation and contact tracing team. To be successful, a community will need public awareness, and understanding and acceptance of case investigation and contact tracing and the need for contacts to separate themselves from others who are not exposed. Community members need to take responsibility to follow the guidance from public health agencies.

## Data management and technology will be needed.

Case investigation, contact tracing, and contact follow-up and monitoring will need to be linked with timely testing, clinical services, and agile data management systems to facilitate real-time electronic transmission of laboratory and case data for public health action. Technology partners are key in the modification of existing systems and the development of new user-friendly data interfaces to manage multiple data streams with seamless interoperability. Case management tools can help automate key pieces of the

case investigation and contact tracing process, making the overall process more efficient. Ideally, data systems would also include automated reports to aid in monitoring progress and outcomes of case investigation and contact tracing. Data sharing agreements between local, tribal and state, and federal jurisdictions need to be established or augmented to ensure timely and accurate data collection and sharing.

The adoption of emerging technologies that can assist private and public health practitioners with client communication, medical monitoring, and strategies to amplify case investigation and contact tracing may greatly help with scaling up these activities as needed. [Digital Contact Tracing Tools for COVID-19](#)  [1 page]

## Ongoing monitoring and assessment of case investigation and contact tracing efforts will be needed.

Public health agencies and their partners will need to monitor some key components of their programs to improve performance as needed. Potential metrics routinely reviewed could include the following process and outcome measures:

- Case interviewing: Time to interview from symptom onset and from diagnosis; proportion interviewed; median number of contacts elicited; proportion with no contacts elicited.
- Contact notification: Proportion of contacts notified; time from first potential exposure to notification.
- Contact follow-up: Daily proportion of contacts whose status is evaluated; proportion of contacts with symptoms evaluated within 24 hours of onset of symptoms; proportion of contacts who complete their full self-monitoring period
- Contact tracing efficacy: Percent of new COVID-19 cases arising among contacts during self-monitoring period.

Last Updated Oct. 21, 2020

Content source: [National Center for Immunization and Respiratory Diseases \(NCIRD\), Division of Viral Diseases](#)